

CLAIMS

What Is Claimed Is:

1. A process for manufacturing a dental restoration comprising:
5 forming a die for a coping or a framework;
forming the coping or the framework from a ceramic material;
wherein the ceramic material is in its green state or in a partially sintered state;
placing the coping or framework on the die; and
10 fully sintering the coping or framework.
2. The process of claim 1 wherein the ceramic material comprises alumina,
zirconia, silicon nitride, silicon carbide, silica-alumina-nitride, mullite, garnets, porcelain or
mixtures thereof.
- 15 3. The process of claim 2 wherein the porcelain comprises leucite, lithium
disilicate, mullite or mica.
4. The process of claim 1 wherein the die is fabricated by milling or rapid
prototyping.
- 20 5. The process of claim 1 wherein the coping or framework is fabricated by
milling or rapid prototyping.
6. The process of claim 1 wherein the die is fabricated of gypsum, silica, leucite,
25 zirconia, hafnia, zirconia, alumina, magnesia, hafnia, zircon, aluminosilicate, cordierite,
mica, silicon nitride, silicon carbide, silica-alumina-nitrides, mullite, garnet, or mixtures
thereof.
7. The process of claim 1 wherein the die is fabricated of a metal or alloy.

8. The process of claim 7 wherein the metal or alloy comprises molybdenum, nickel or mixtures thereof.

5 9. The process of claim 1 wherein the coping or framework is in the shape of denture teeth, a bridge, crown, space maintainers, tooth replacement appliance, orthodontic retainer, denture, post, jacket, inlay, onlay, facing, veneer, facet, implant, abutment, splint, partial crown, cylinder, pin, or connector.

10 10. A process for manufacturing a dental restoration comprising:
manufacturing a shell by rapid prototyping, wherein the shell is a replica of a coping;
covering the shell with refractory material;
burning out the shell to provide a space in the refractory material;
filling the space with ceramic, metal or composite material to form the dental
restoration.

15 11. The process of claim 10 wherein the filling step comprises injecting or vibrating the ceramic, metal or composite material into the space.

20 12. The process of claim 10 wherein the ceramic, metal or composite material is in the form of a slurry and is poured into the space.

13. A dental restoration formed by the process of claim 1.

25 14. A dental restoration formed by the process of claim 10.